



## Utah Department of Health **Diabetes Prevention & Control Program**

# Understanding Diabetes

### **TYPES OF DIABETES**

*There are currently four diagnosed types of diabetes. They are:*

#### **>> TYPE 1:**

This type of diabetes occurs when the body destroys the cells in the pancreas that makes insulin. This results in the body not producing insulin required to control blood sugar levels. Type 1 diabetes is usually diagnosed in children and young adults. Approximately 5% to 10% of people with diabetes have type 1.

#### **>> TYPE 2:**

This type of diabetes occurs when the body doesn't produce enough insulin, or cannot properly use the insulin it does produce. The result is too much sugar in the bloodstream. Type 2 diabetes usually affects middle-aged and older adults, but is increasingly showing up in children and young adults. Risk factors increase with age, being overweight, obese and sedentary lifestyle. Approximately 90% to 95% of people with diabetes have type 2.

#### **>> GESTATIONAL DIABETES:**

This type of diabetes is diagnosed in pregnancy and usually disappears after the pregnancy is over. Gestational diabetes is diagnosed in 2% to 5% of all pregnancies. Women who have had gestational diabetes are at increased risk of developing type 2 diabetes later in life.

#### **>> PRE-DIABETES:**

Pre-diabetes occurs when blood glucose levels are higher than normal, but do not meet the diagnostic criteria for a diabetes diagnosis. Previously known as "impaired glucose tolerance" and "impaired fasting glucose," Pre-diabetes affects 16 million Americans over the age of 40. It is typically a pre-cursor to type 2 diabetes. However, treatment of pre-diabetes with proper nutrition and physical activity has been shown to help delay or prevent the onset of type 2 diabetes.

# Diabetes Prevention & Control Program

## Understanding Diabetes

### TYPES OF DIABETES *continued*



#### **SYMPTOMS:**

- Blurred vision
- Frequent urination
- Excessive thirst
- Sores that are slow to heal
- Feeling very tired much of the time
- Tingling or numbness in the hands or feet
- Unexplained weight loss
- Extreme hunger
- Very dry skin
- Increased skin infections

#### **RISK FACTORS:**

- A family history of diabetes
- Overweight or obese
- Giving birth to a baby weighing more than nine pounds
- 45 years of age or older
- No regular physical activity
- African American, Hispanic/Latino, Asian, Pacific Islander or Native American descent
- Pre-diabetes

#### **COMPLICATIONS:**

- Blindness
- Skin ulcers, infections & amputations
- Nerve damage
- Kidney disease and kidney failure
- Heart disease
- Stroke



# Quick Facts About Diabetes

*Diabetes is one of the leading public health problems in the United States & Utah*

## GENERAL FACTS & STATISTICS

- If present trends continue, one in five Americans will get diabetes in his or her lifetime
- Diabetes is a silent disease that affects 17 million people in the United States
- The number of Americans diagnosed with type 2 diabetes is expected to double by 2020 as the population ages and grows increasingly overweight and obese.
- Hispanics/Latinos, African Americans, Asians, Pacific Islanders, and Native Americans have two to three times the risk of developing diabetes compared to Non-Hispanic Whites
- Obesity is a major contributing factor to type 2 diabetes
- Over the past decade, diabetes prevalence has increased by 41 percent in the U.S.
- Diabetes is increasingly occurring in younger Americans. From 1990 to 2000 diabetes prevalence increased 27 percent among adults 18-29, and 81 percent among adults 30-39
- People with diabetes are two to three times more likely to be admitted to a hospital than those without diabetes
- People with diabetes have health care costs that are about three times greater than people without diabetes
- People with diabetes are two to four times more likely to have a heart attack or stroke than those without diabetes
- Diabetic retinopathy is the leading cause of new cases of blindness for working-age adults
- Between 10 and 21 percent of all people with diabetes eventually develop kidney disease
- The risk of amputation is 15 to 40 times greater for those with diabetes than those without diabetes

# Quick Facts About Diabetes *continued*

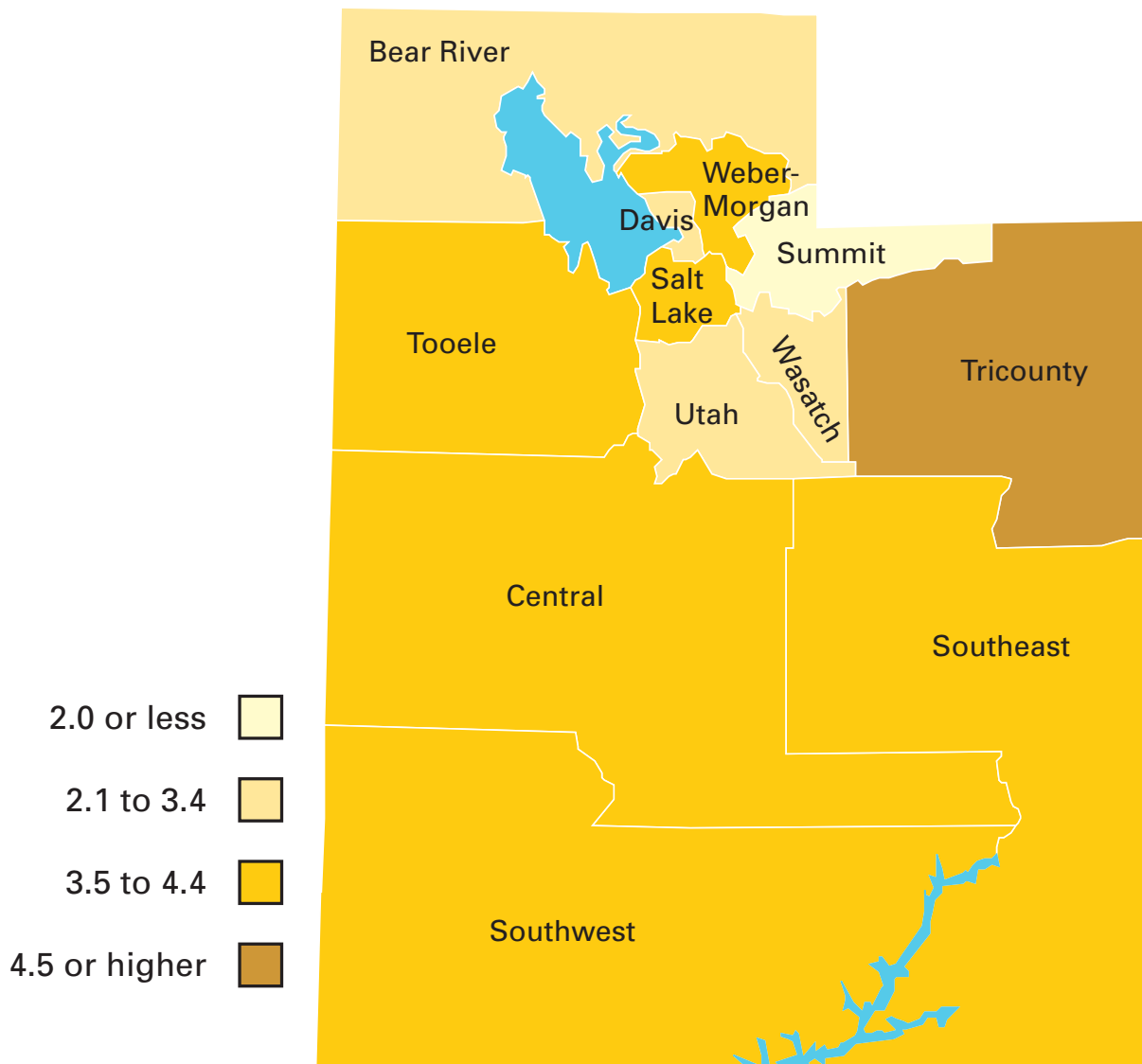
*Diabetes is one of the leading public health problems in the United States & Utah*

## UTAH FACTS & STATISTICS

- In Utah, an estimated 120,000 residents have diabetes. One-third of them are unaware they have diabetes
- In 2002, 4.4% of Utah Adults (18+) had been diagnosed with diabetes.
- From 1990 to 2000, Utah's diabetes prevalence increased 81 percent
- Diabetes is the sixth leading cause of death in Utah
- Diabetes is the fifth leading cause of death by disease, excluding unintentional injuries, in Utah and contributes to over 1,000 deaths per year
- In the year 2000 there were over 18,000 hospitalizations for Utah residents listing diabetes as a diagnosis. The total charges for these hospitalizations were \$211 million
- Seventy-four percent of Utahns with diabetes are overweight or obese compared to 54.8 percent without diabetes
- Sixty-five percent of Utahns with diabetes have been told they have high blood pressure compared to 18 percent of those without diabetes

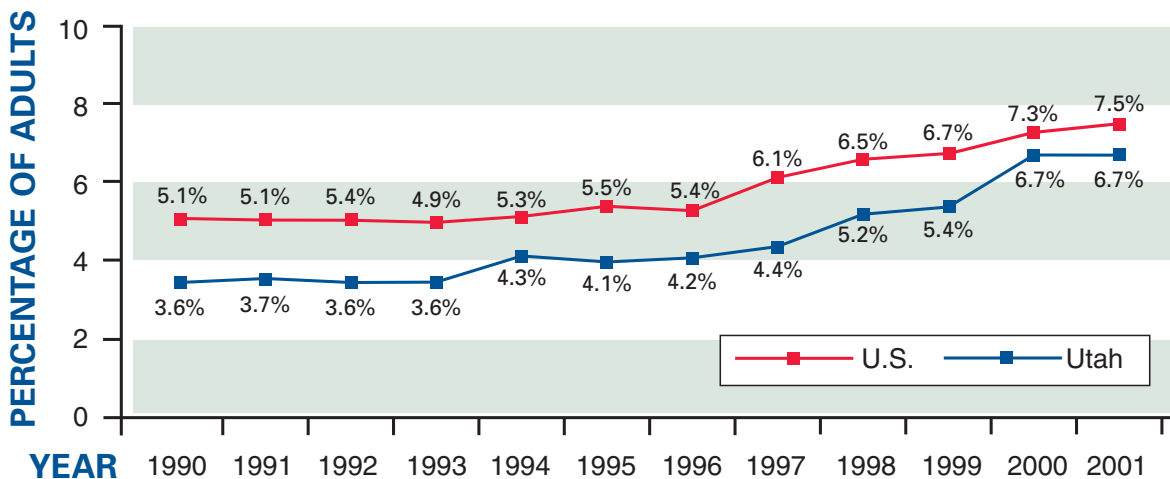
# Percentage of Population with Diabetes

by Health District, Utah, 2001\*



# Diabetes Comparisons

**Percentage of Population, Age 18 and Over, Diagnosed with Diabetes (3-Year Moving Averages), U.S. and Utah Behavioral Risk Factor Surveillance System 1990-2000**



Source: BRFSS 1989-2001, Bureau of Health Promotion, Dept. of Health and <http://apps.nccd.cdc.gov/brfss/Trends/TrendData.asp>

The percentage of Utah adults (18 and over) diagnosed with diabetes has consistently been slightly lower than the percentage for the U.S. By 2000, 6.3% of U.S. adults had been diagnosed with diabetes, compared to 4.6% of Utah adults.

Note: The decline in the percentage of Utah adults diagnosed with diabetes in 2000 is likely due to a random sampling variability rather than to an actual decline.

## DIABETES PREVALENCE 1990-2000

### UTAH

Increased 81 Percent

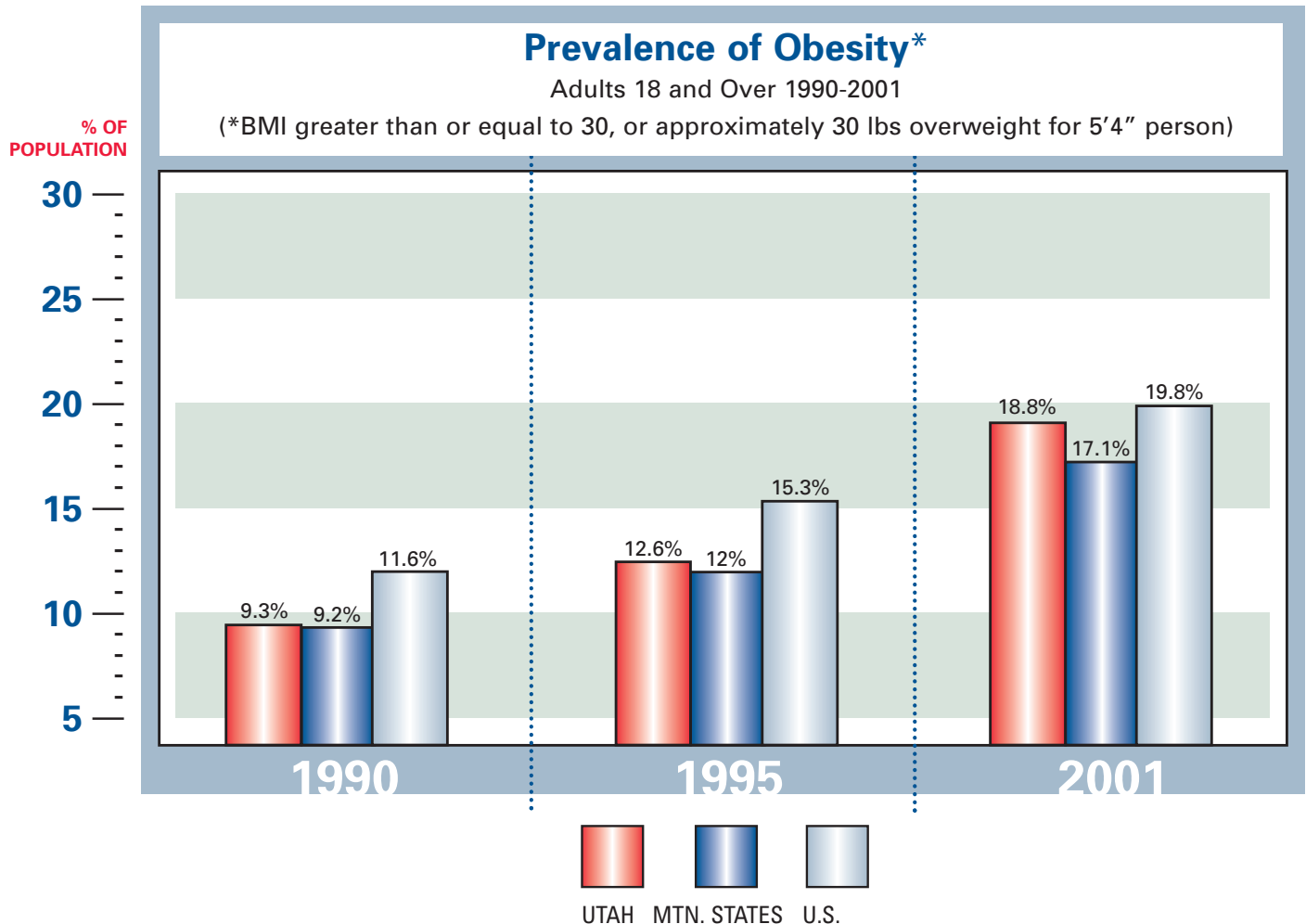
### UNITED STATES

Increased 41 Percent

**Utah's diabetes rate is ranked 37th highest in the nation**

# Diabetes Contributing Factors

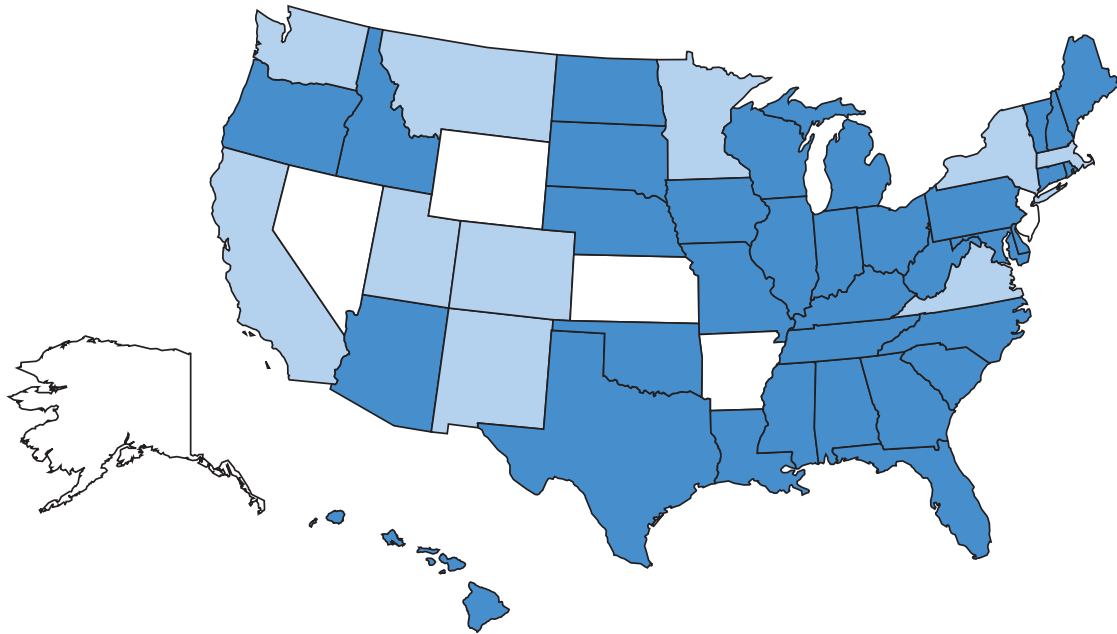
## Utah & America's Expanding Waistline



# Obesity\* Trends Among U.S. Adults

BRFSS, 1990

(\*BMI greater than or equal to 30, or approximately 30 lbs overweight for 5'4" person)

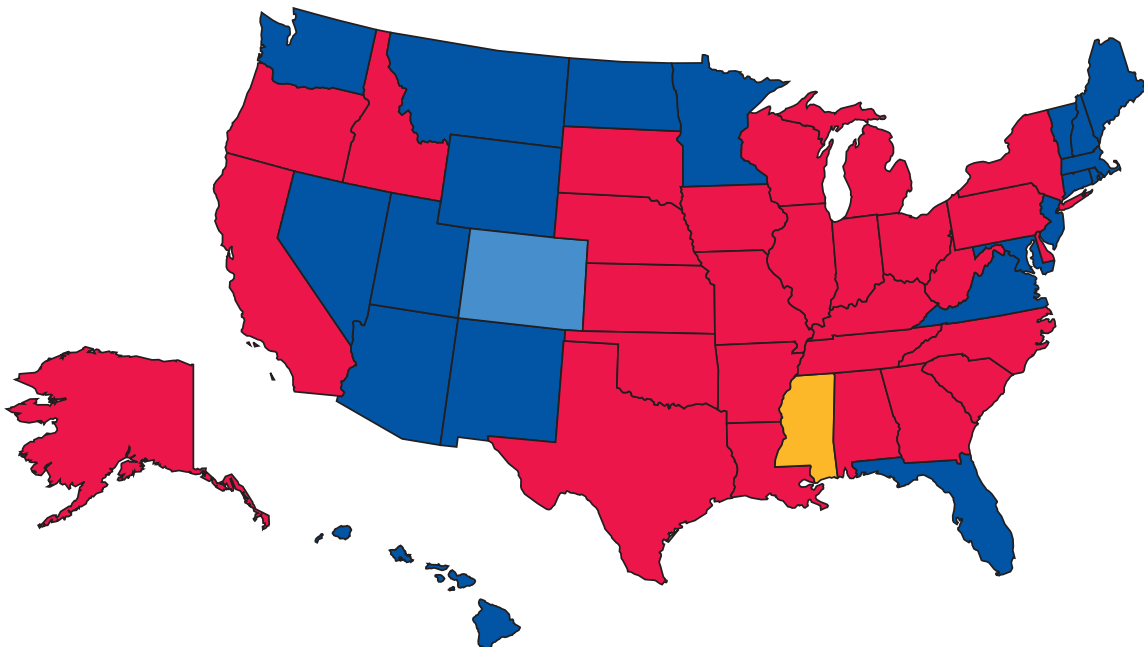


NO DATA <10% 10%-14%

Source: BRFSS, CDC.

BRFSS, 2001

(\*BMI greater than or equal to 30, or approximately 30 lbs overweight for 5'4" person)



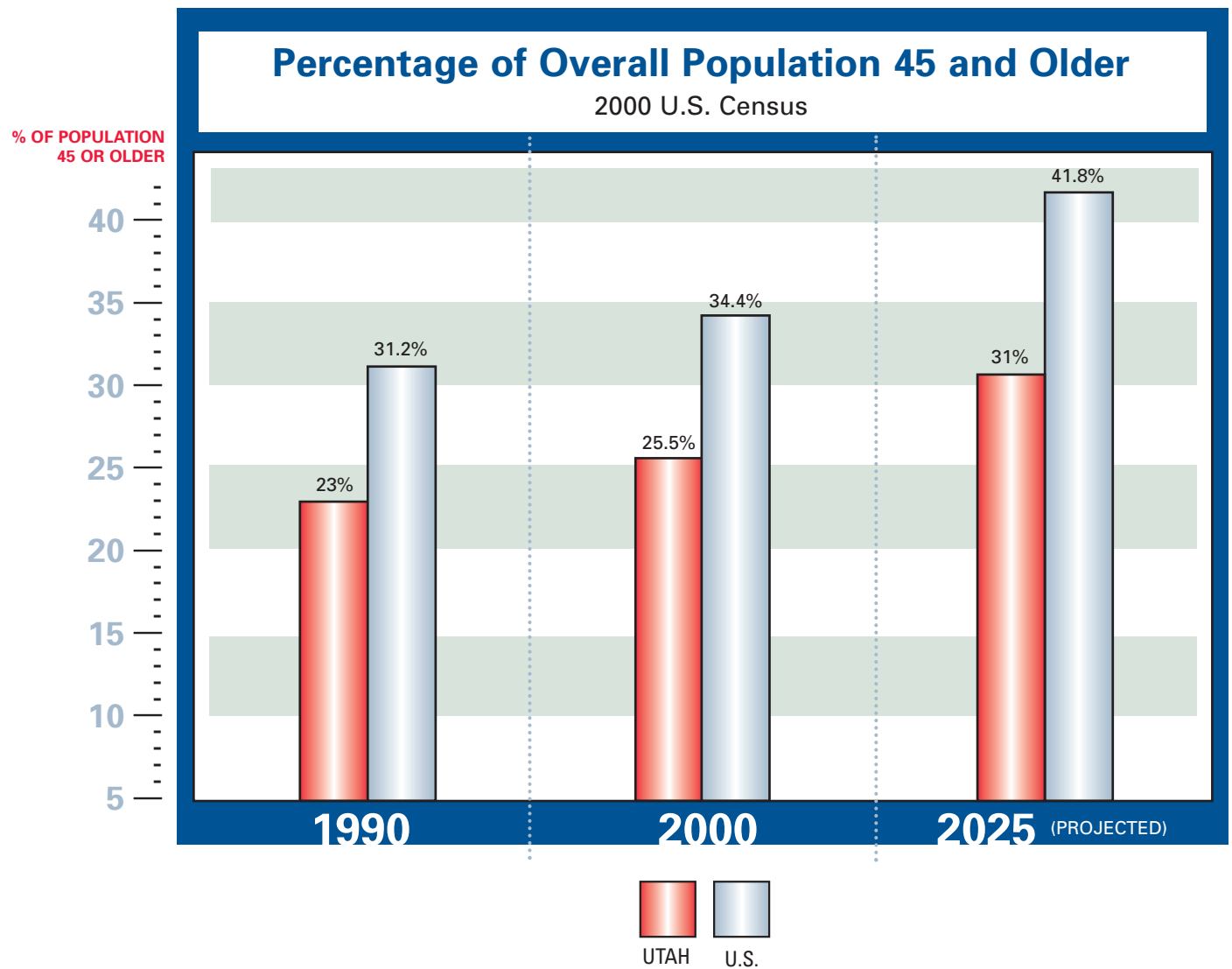
NO DATA 10%-14% 15%-19% 20%-24% ≥25%

Source: Mokdad AH, et al. JAMA 2001;286:10



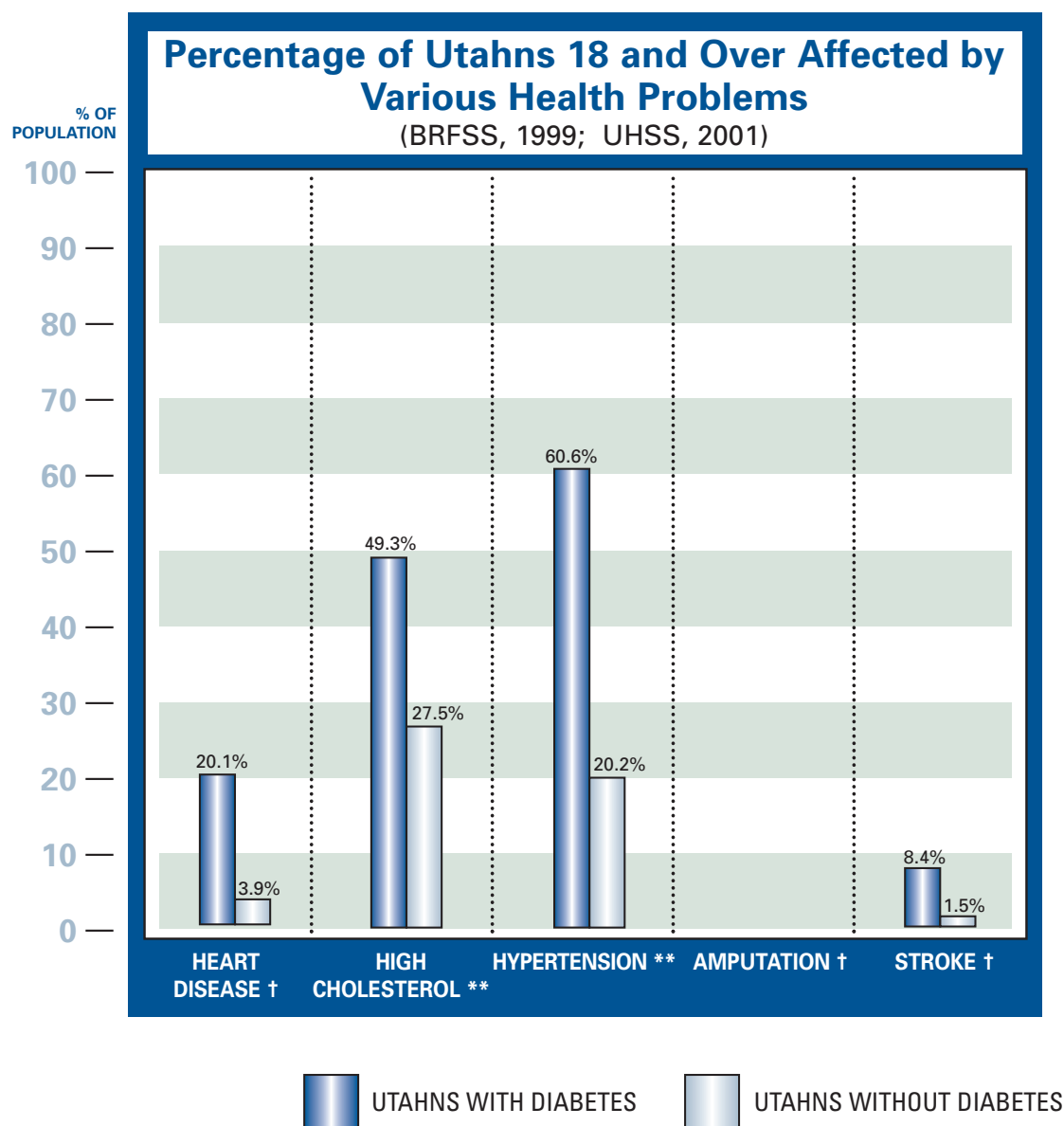
# Diabetes Contributing Factors

The Aging of America



While Utah's population is aging at a slightly slower rate than the nation's, the percentage of Utahns over the age of 45 is projected to make up nearly one-third of the state population in 2025.

# Added Risks of Diabetes



\* As a percentage, the number of amputations in Utah is too small to register on this chart. However, in 2001 there were 264 hospital discharges for non-traumatic lower extremity amputations for Utah residents with diabetes, 140 discharges for Utahns without diabetes.

† Source: Utah Health Status Survey, 2001, Office of Public Health Assessment, Utah Department of Health.

\*\* Source: BRFSS, 1999, CDC



# Diabetes Prevention and Control Program

## BACKGROUND

### HISTORY & MISSION

*The Utah Diabetes Prevention and Control Program (DPCP) based at the Utah Department of Health has been funded by the Centers for Disease Control and Prevention (CDC) since 1980. DPCP works to inform Utahns about the seriousness of diabetes and helps offer residents access to high quality diabetes education programs, improved insurance coverage and better community medical care. Its mission is to work in partnerships to improve the quality of life of all Utahns at risk for, or affected by diabetes.*

### DPCP ACTIVITIES

#### >> **Collect, analyze and distribute regional and statewide Utah diabetes data from the following sources:**

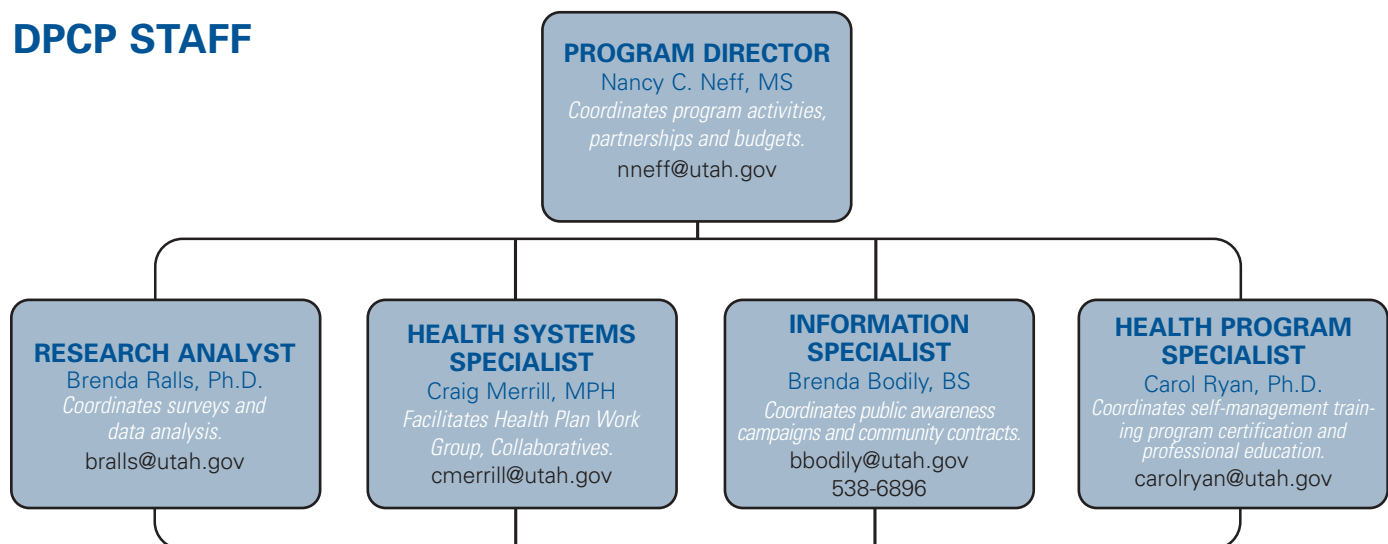
- **Behavioral Risk Factor Surveillance System** – assesses a number of chronic conditions, access to health care, lifestyle risk factors and demographic information for Utah adults 18 and over. This survey is conducted in all 50 states and 4 territories each year
- **Birth Certificates** – used to examine birth outcomes among Utah females with gestational or pre-existing diabetes. Approximately 800 births per year in Utah list mothers as having diabetes
- **Death Certificates** – records the underlying cause of death and nine contributing causes or conditions
- **Hospital Discharge Data** – contains information on charges and billing, diagnostic codes, procedure codes, length of stay, and limited demographic information for each in-patient hospital stay
- **Primary Care Provider Surveys** – a survey mailed to providers every five years to collect quality of care information recommendations for people with diabetes
- **Utah Diabetes Consumer Surveys** – conducted every five years to collect information on access issues relating to medical care, health complications, and diabetes self-management techniques
- **Utah Health Status Survey** – a statewide survey conducted every five years on chronic diseases, lifestyle, insurance and demographics

# Diabetes Prevention and Control Program

## DPCP ACTIVITIES (cont.)

- >> Certify that diabetes self-management education programs meet national standards
- >> Partner with primary care providers and their staff to improve diabetes care
- >> Partner with health insurance plans to evaluate diabetes care and develop and implement statewide interventions resulting in improvements in diabetes care
- >> Conduct diabetes public awareness campaigns in partnership with broadcast and print media
- >> Coordinate diabetes continuing education programs for primary care providers, diabetes educators and general health care professionals
- >> Develop, distribute and promote "Utah Diabetes Practice Recommendations"
- >> Collaborate with other diabetes agencies and stakeholders to develop a common vision for improving diabetes care and control in Utah
- >> Provide funding to community agencies to develop diabetes coalitions that implement local activities for improving diabetes care and control

## DPCP STAFF



All staff members are available for interviews, comments or more information regarding diabetes or diabetes-related news, inquiries and information.

## DPCP CONTACT INFORMATION

Utah Diabetes Prevention and Control Program (DPCP)  
PO Box 142107 Salt Lake City, UT 84114-2107  
Phone: (801) 538-6141  
Fax: (801) 538-9495  
URL: [www.health.utah.gov/diabetes](http://www.health.utah.gov/diabetes)

# Diabetes Prevention & Control Program



## CALENDER OF EVENTS

A complete list of events and activities throughout the year can be found at [www.health.utah.gov/diabetes](http://www.health.utah.gov/diabetes)

## AWARENESS CAMPAIGNS

### KNOW THE WARNING SIGNS OF DIABETES

*To increase public awareness of diabetes risk factors and symptoms*

- Targets all Utahns over the age of 35
- Utilizes television and radio PSAs, brochures, posters and print publications
- Encourages Utahns to see their doctor if they have symptoms or risk factors

### CONTROL YOUR DIABETES. FOR LIFE.

*To increase the awareness of diabetes control methods and the importance of maintaining diabetes control*

- Targets Utahns with diabetes and their families
- Utilizes television and radio PSAs, brochures, posters and print publications
- Educates Utahns about the importance of diabetes control

### HIGH RISK RACIAL OR ETHNIC MINORITY POPULATIONS

*To inform racial or ethnic minorities of their increased diabetes risk*

- Targets Native Americans, African Americans, Asians, Pacific Islanders and Hispanics
- Primary audiences are Hispanics/Latinos and Tongans and Samoans
- Utilizes television and radio PSAs, outdoor advertising, brochures, posters and print publications

# Diabetes Prevention & Control Program

## AWARENESS CAMPAIGNS (cont.)

### HISPANICS/LATINOS AND POLYNESIANS WITH DIABETES

*To educate Hispanics/Latinos, Tongans and Samoans with diabetes of the importance of diabetes control*

- Targets Hispanics/Latinos, Tongans and Samoans with diabetes and their families
- Utilizes television and radio PSAs, outdoor advertising, brochures, posters and print publications
- Materials are produced in Spanish, Tongan and Samoan

### RECOGNIZING PRE-DIABETES CAN PREVENT TYPE 2 DIABETES

- Targets all Utahns over the age of 35
- Utilizes television and radio PSAs and brochures
- Managing pre-diabetes with physical activity and proper nutrition can prevent or delay type 2 diabetes

## AVAILABLE DATA REPORTS

Extensive diabetes research and information is available for the media by calling **(801) 538-6141** or visiting **[www.health.utah.gov/diabetes](http://www.health.utah.gov/diabetes)**

- *Hispanic Health in Utah, A Focus on Diabetes*
- *Diabetes - Eye Report*
- *Utah Diabetes Status Report 2001*
- *Health District Profiles*
- *An Overview of Gestational Diabetes Mellitus in Utah*





## Quotes\*

- >> "We highly recommend people with diabetes get their eyes checked for complications at least once a year," said Craig Merrill, Utah Diabetes Prevention and Control Program Health Systems Specialist.
- >> "Diabetes is a disease about which we can do a great deal, but only when those affected are informed and empowered to take the kind of control of this disease that is now possible," Dr. James R. Gavin III, MD Ph.D., Chair African American Diabetes Program.
- >> "Diabetes is a serious public health issue in Utah and the United States," said Brenda Ralls, Utah Diabetes Prevention and Control Program Research Analyst. "We estimate that one in five Americans will be diagnosed with diabetes in his or her lifetime."
- >> "Education and control are the keys to preventing diabetes complications," said Carol Ryan, Utah Diabetes Prevention and Control Program Health Program Specialist.
- >> "Like many things in life, total perfection is unattainable in diabetes control," said Brenda Bodily, Utah Diabetes Prevention and Control Program Information Specialist. "Everyone has bad days every now and then. What helps prevent complications in the long run is not giving up and continuing to work hard in the next days and weeks to stay in control."
- >> "It is extremely important to know your diabetes risk status," said Craig Merrill, Utah Diabetes Prevention and Control Program Health Systems Specialist. "People can live with diabetes for over a decade without knowing it, while the disease is slowly damaging their eyes, kidneys, heart and nerves. Early diagnosis is critical to starting good medical and self management to reduce serious complications."
- >> "While scientists have not discovered the exact causes of type 2 diabetes, we do know that regular physical activity, nutritious meals and weight management can go a long way in preventing or delaying the onset of the disease," said Brenda Ralls, Utah Department of Health Diabetes Prevention and Control Program Research Analyst.
- >> "One of the most significant concerns from a public health perspective is that we know a lot of children who are overweight grow up to be overweight or obese adults, and thus at greater risk for some major health problems such as heart disease and diabetes," said Dr. Julie Gerberding, director of the Centers for Disease Control and Prevention.

\* All DPCP staff are available for additional interviews and quotes.





## Radio PSAs



### 15 SECONDS:

If you have diabetes, help keep your blood sugar under control with nutritious meals, regular physical activity and prescribed medication. Because you CAN Control Your Diabetes. For Life. For more diabetes control information call 1-888-222-2542.

If you receive Medicare and have diabetes, Medicare will now help pay for glucose monitors, test strips, lancets and other blood testing equipment. For more information about Medicare's diabetes benefits, call 1-800-438-5383. That's 1-800-438-5383.

Did you know diabetes doubles your risk of heart attack or stroke? The Utah Diabetes Prevention and Control Program encourages all Utahns over 45 to get screened for diabetes. For more information, call the Utah Department of Health Resource Line at 1-888-222-2542.

### 30 SECONDS:

A beautiful sunrise. A grandchild's hug — the love of family. There are so many things to live for. If you have diabetes, learning to control it can help you avoid serious complications, feel better, and enjoy a longer, healthier life. Remember, just like you've controlled your life, you can control your diabetes. To learn how, contact your doctor or call the Utah Department of Health Resource Line toll-free today at 1-888-222-2542.



# Diabetes Glossary:

**Blood Glucose Level:** The amount of sugar currently in the bloodstream. It is measured by milligrams per deciliter. Diabetes is diagnosed by an 8 hour fasting blood glucose test of 126 mg/dl or greater.

**Blood Glucose Meter:** A device that tests blood sugar from a drop of blood placed on a test strip. Blood is typically received via a finger-stick lancet.

**Blood Glucose Test:** A test that determines current blood sugar. It is typically done using a finger-stick home blood glucose meter system. Normal Range for people with diabetes before meals is 80 - 120 mg/dl, and 100-140 mg/dl at bedtime.

**Body Mass Index:** A measure of an adults weight in relation to his or her height, specifically the adults weight in kilograms divided by the square of his or her height in meters.

**Care Team:** Health professionals who help a patient manage diabetes. This team may include a physician, nurse, dietitian, and certified diabetes educator. Ophthalmologists, podiatrists, pharmacists and other specialists can also be part of the team.

**Diabetes Control:** Following diabetes care plan guidelines and maintaining blood sugar levels within the normal range.

**Glucose:** A simple form of sugar that acts as the body's fuel. It is produced when foods are broken down in the digestive system. Glucose is carried by the blood to the cells.

**Hemoglobin A1c Test:** A lab test that shows the average amount of sugar that has been in the bloodstream over the last three months. Ideally, the percentage should be under 7 percent. A change in treatment may be needed if the test result is over 8 percent.

**Hyperglycemia:** A condition in which blood glucose levels are too high (>250 mg/dl).

**Hypoglycemia:** A condition in which blood glucose levels drop too low (<70 mg/dl).

**Impaired Fasting Glucose (pre-diabetes):** A condition, determined by a fasting plasma glucose test, in which a person's blood glucose levels are above normal but not high enough to have diabetes. People with this condition are at an increased risk for developing diabetes. This is analogous to impaired glucose tolerance, a condition diagnosed with an oral glucose test.

**Insulin:** A hormone produced by the pancreas that helps the body use glucose. It is the "key" that unlocks the "doors" to cells and allows glucose to enter.

**Insulin Resistance:** A condition in which the body does not respond to insulin properly.

**Ketoacidosis (diabetic coma):** A severe condition caused by a lack of insulin or an elevation in stress hormones. It is marked by high blood glucose levels and ketones in the urine, and occurs almost exclusively in those with type 1 diabetes.

**Lancet:** A small pin-sized needle used to slightly puncture the skin in order to generate a drop of blood.

**mg/dl:** Milligrams per deciliter. This is the unit of measure used when referring to blood glucose levels.

**Obesity:** Having a very high amount of body fat in relation to lean body mass, or Body Mass Index (BMI) of 30 or higher.

**Overweight:** Having a high amount of body fat in relation to lean body mass, or Body Mass Index (BMI) of 25 to 30.

**Test Strips:** Specially made strips on which a drop of blood is placed to determine the current blood glucose level. Used in conjunction with a blood glucose meter.



**For more information, contact:**

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Office: 801-538-6896  
Cell: 801-710-4675

## **Diabetes is Serious; Know The Warning Signs**

(Salt Lake City, UT) – Ashley Scott is 40 years old, has an active job, and like an increasing amount of younger Americans, was taken by surprise to discover he had diabetes.

The prevalence of diabetes has increased by nearly 95 percent among 30 to 39 year-olds from 1990 to 2000, according to the Centers for Diseases Control and Prevention (CDC). This increase has been mainly attributed to the rapid increase of overweight and obese young adults.

Scott was first diagnosed with type 1 diabetes in 1995, at the age of 32. Fortunately for Scott, his knowledge of diabetes and hyperglycemia helped him recognize the symptoms of diabetes at an early stage.

"I was at an office party where I consumed a large lunch and several desserts," said Scott. "I started feeling so bad that my wife and I decided to go home. The week previous, I had extreme fatigue and an insatiable thirst that was followed by a constant need to urinate."

Scott purchased a blood glucose meter, and after testing himself received a "high" reading from the monitor and a code to see a doctor. He then went to the local emergency room.

"Because of my family history of death from diabetes complications and my medical background, I suggested the nurse test me for diabetes," Scott said.

Scott was admitted to the hospital with a blood sugar level of 752, more than five times the normal amount.

Unfortunately, many Utahns and Americans are not as aware of diabetes symptoms, and go months or even years with undiagnosed diabetes, while the disease slowly takes over their bodies. There are approximately 120,000 people in Utah with diabetes and more than one third have not been diagnosed yet, according to the Utah Department of Health Diabetes Prevention and Control Program (DPCP).

"Many diabetes symptoms may be unnoticeable, or are similar to other diseases, so they can be easy to miss," stated Brenda Bodily, DPCP Information Specialist. "Therefore, it is very important to know the symptoms and your risk factors."

Symptoms of diabetes include extreme thirst, blurry vision, frequent urination, tingling or numbness in the hands or feet, unusual tiredness, cuts that are slow to heal and unexplained weight loss.

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Those at high risk for diabetes include people who are over the age of 45, overweight, have a family history of diabetes, are of African American, Asian, Pacific Islander, Hispanic or Native American descent, are not physically active, or have had a baby weighing over nine pounds at birth.

Since Scott's diagnosis, he has been under a diabetes control plan consisting of physical activity, nutritious foods and medications.

"Learning how to self manage my diabetes has given me a great deal of control," said Scott. "I was fortunate enough for a year to be a client of a Certified Diabetes Educator/Nurse Practitioner. With her help I learned how to measure foods carefully and how to manage combinations of foods to keep my carbohydrate intake lower."

"It has been seven years since my diagnosis during that scary weekend in 1995," said Scott. "I continue to watch what I eat, test myself twice a day and take a combination of medicine and insulin. I am told that my health is good and I attribute that to keeping my diet and exercise plan."

If you think you may have symptoms or risk factors of diabetes, call your doctor today. For a free information packet, call the Utah Department of Health Resource Line at 1-888-222-2542.

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**For more information, contact:**

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## **Controlling Diabetes Reduces Risk of Complications**

(Salt Lake City, UT) – Acceptance or denial, a simple choice. However, for Kathryn Powell of Salt Lake City, acceptance made all the difference in her ability to control her diabetes.

"When I was first diagnosed with diabetes, I felt frightened, frustrated and alone," said Powell. "But with the help of a wonderful dietitian and diabetes nurse educator, I started out on a path of change."

"I soon found that the only way to succeed with this disease was to accept it, and make my changes positive," she said. "By taking control of my diabetes, my whole life changed for the better. I lost weight, had my glucose levels in check, ate healthier, but most of all I found myself feeling better, really being happy and in control of my whole life. I found the need for an easy and accurate way to track my diabetes care, so with the help of my husband, doctors and dietitians, we founded Reach For H.O.P.E., a Diabetes Software Tracking System that I use daily and share with as many people as I can."

"Diabetes is a chronic disease that can lead to serious complications such as blindness, kidney failure, amputations, heart disease, nerve damage and stroke," stated DPCP Information Specialist Brenda Bodily. "But many of these complications could be reduced by over 50 percent if people with diabetes maintained near normal sugar levels."

According to the Utah Department of Health Diabetes Prevention and Control Program (DPCP), an estimated 120,000 Utahns have diabetes. Unfortunately, many of them don't properly control their diabetes. It is estimated that more than one third of Utahns with diabetes are not treating their disease because they are unaware they have it. Many who have been diagnosed do not control their diabetes for a variety of reasons, including denial, not taking the disease seriously, and difficulty in changing lifestyle habits.

Powell has managed to maintain control over her diabetes for the past five years with the help of her family, diabetes care team, software system and her strong positive outlook on diabetes control.

"My family has been so supportive and active in my care," said Powell. "We all learned to eat healthier and found this did not change our "fun" eating times, but brought new

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food items to light. I'm not thrilled to have this disease, but since I do have it, I choose to take control of it the best I can and to live a full and active life as long as I can," said Powell.

An essential part of diabetes control recommended for Powell and all Utahns has been regular screenings for complications. To encourage Utahns with diabetes to get these important screenings, DPCP and the American Diabetes Association have partnered with organizations throughout Utah to offer free diabetes related activities, including complication screenings, health fairs and cooking classes throughout National Diabetes Awareness Month in November.

If you have diabetes or are concerned about diabetes complications, call your doctor for a screening packet, call the Utah Department of Health Resource Line at 1-888-222-2542.

-END-

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